

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A bone cement comprising in admixture a monomer-containing liquid portion and a particulate polymer portion, wherein at least one of said portions comprises a ~~dissolved~~-non-polymerizable organoiodine compound, which, when present, is dissolved in the liquid portion or incorporated into the particles of the particulate polymer portion.

2. -3. (canceled).

4. (previously presented): The bone cement according to claim 1 having a chemically homogenized distribution of all components therein.

5. (canceled).

6. (previously presented): The bone cement as claimed in claim 1, wherein said cement additionally comprises an antibiotic compound.

7. (previously presented): The bone cement as claimed in claim 6, wherein said antibiotic compound is selected from the group consisting of gentamicin, colistin, erythromycin, clindamicin, penicillins, norfloxacin and chloramphenicol.

8. (previously presented): The bone cement as claimed in claim 6, wherein said antibiotic compound is present in the form of a lipophilic ester.

9. (previously presented): The bone cement as claimed in claim 1, wherein the concentration of the organoiodine compound within the particulate polymer portion differs by

less than 50% compared to the concentration of the organoiodine within a polymer which is prepared *in situ* from the monomer during use.

10. (previously presented): The bone cement as claimed in claim 6, wherein the concentration of the antibiotic compound within the particulate polymer portion differs by less than 50% compared to the concentration of the organoiodine within a polymer prepared *in situ* from the monomer during use.

11. (previously presented): The bone cement as claimed in claim 10, wherein the concentration of the antibiotic compound within the particulate polymer portion differs by less than 10% compared to the concentration of the organoiodine within the polymer prepared *in situ* from the monomer during use.

12. (canceled).

13. (previously presented): The bone cement as claimed in claim 1, wherein the liquid portion additionally comprises at least one of hydroquinone, growth hormone, bone morphogenic protein or vitamins.

14. (previously presented): The bone cement as claimed in claim 1, wherein said liquid portion is present in a range of from 25 to 45% wt of cement.

15. (previously presented): The bone cement as claimed in claim 1, wherein said polymer portion additionally comprises at least one of hydroquinone, growth hormone, bone morphogenic protein or vitamins.

16. (previously presented): The bone cement as claimed in claim 1, wherein polymer particles of said particulate polymer portion have a mode particle size of from 1 to 200 μm .

17. (previously presented): The bone cement as claimed in claim 1, wherein polymer particles of said particulate polymer portions are polydisperse.

18. (withdrawn): A bone cement kit comprising a monomer-containing liquid portion and separate therefrom a particulate polymer portion, wherein at least one of said portions comprises a dissolved non-polymerizable organoiodine compound, said kit optionally further comprises instructions for the preparation of a bone cement therewith.

19. (withdrawn): A bone cement kit comprising a monomer-containing liquid portion and separate therefrom a particulate polymer portion, wherein said liquid portion comprises a polymerizable organoiodine compound and said particulate polymer has a polymer structure comprising covalently bonded residues of a polymerizable organoiodine compound, said kit optionally further comprises instructions for the preparation of a bone cement therewith.

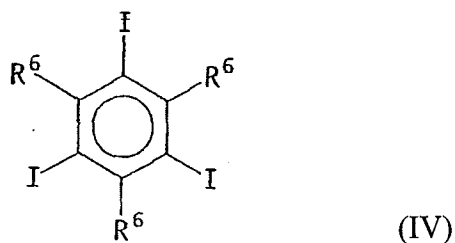
20. (withdrawn): A bone cement kit comprising a monomer-containing liquid portion and separate therefrom a particulate polymer portion, wherein said liquid portion comprises a polymerizable organoiodine compound and/or said particulate polymer has a polymer structure comprising covalently bonded residues of a polymerizable organoiodine compound, wherein said polymerizable organoiodine compound comprises an organoiodine moiety covalently bonded via an amide bond, but not an ester bond, to a polymerizable moiety.

21. (withdrawn): A bone cement kit providing a bone cement comprising a chemically homogeneous distribution of all components within the final bone cement.

22. (withdrawn): The bone cement kit as claimed in claim 21, wherein said cement comprises an X-ray contrast agent.

23. (withdrawn): The bone cement kit as claimed in claim 21, wherein said cement additionally comprises an antibiotic agent.

24. (withdrawn): An organoiodine compound of formula IV



wherein each R^6 group which may be the same or different, is an acyloxyalkylcarbonylamino, N-(acyloxyalkyl carbonyl)acyloxyalkylamino, N-acyloxyalkylcarbonyl-N-alkyl-amino, acyloxyalkylaminocarbonyl, bis(acyloxyalkyl)aminocarbonyl, N-acyloxyalkyl-N-alkylaminocarbonyl, alkoxyalkylaminocarbonyl, N-alkylalkoxyalkylaminocarbonyl, bis(alkoxyalkyl)aminocarbonyl, alkoxyalkylcarbonylamino, N-alkylalkoxyalkylcarbonylamino or N-alkoxyalkylcarbonylalkoxyalkylamino group or a triiodophenyl group attached via a 1 to 10 atom bridge optionally substituted by an acyloxyalkyl, acyloxyalkylcarbonyl, acyloxyalkylamino, acyloxyalkylcarbonylamino, acyloxyalkylaminocarbonyl, alkoxyalkyl, alkoxyalkylcarbonyl, alkoxyalkylamino, alkoxyalkylcarbonylamino, or alkoxyalkylaminocarbonyl group or by a polymerizable group, or one or two R^6 groups is/are a polymerizable group, optionally attached via a 1 to 10 atom bridge; or where one R^6 group is a polymerizable group, and one or both of the remaining R^6 groups is an alkylamino, bisalkylamino, alkylcarbonylamino, N-alkyl-alkylcarbonylamino, alkylaminocarbonyl or bis-alkyl-aminocarbonyl group.

25. (withdrawn): The organoiodine compound as claimed in claim 24, wherein each R^6 group is a triiodophenyl group attached via a 1 to 10 atom bridge composed of bridging atoms selected from O, N and C.

26. (withdrawn): A method of producing a bone cement comprising admixing a liquid monomer portion and a particulate polymer portion, wherein admixture of said portions is effected under helium.

27. (withdrawn): A method for preparing a particulate polymer of a bone cement, wherein polymer particles are formed by emulsion polymerization.

28. (withdrawn): The method as claimed in claim 27, wherein said emulsion is oil-in-water.

29. (withdrawn): The method as claimed in claim 27, wherein the emulsion has an aqueous phase additionally comprising an emulsifier.

30. (withdrawn): A method of producing polymer particles by emulsion polymerization wherein salts are added to the aqueous phase.

31. (withdrawn): A method of producing polymer particles by emulsion polymerization, wherein the pH is adjusted by the addition of acids, bases or by the use of buffers.

32. (withdrawn): The method as claimed in claim 27, wherein polymerization is effected at a temperature in the range of from 50 to 100°C.

33. (withdrawn): The method as claimed in claim 32, wherein polymerization is effected at a temperature in the range of from 70 to 80°C.

34. (withdrawn): The method as claimed in claim 27, additionally comprising a polymerization initiator.

35. (withdrawn): The method as claimed in claim 34, wherein said polymerization initiator is selected from the group consisting of benzyl peroxide (BPO), 2,2'-azo-bis-isobutyronitrile (AIBN) and *t*-butyl peroxybenzoate.

36. (withdrawn): The method for preparing an organoiodine compound as claimed in claim 24, wherein said compound is prepared from triiodophenyl carboxylic acids and amines.

37. (withdrawn): The method as claimed in claim 36, additionally comprising a polymerization initiator.

38. (withdrawn): The method as claimed in claim 37, wherein said polymerization initiator is selected from the group consisting of N,N-dimethylp-toluidine, N,N-dimethylaminobenzyl alcohol (DMOH) and N,N-dimethylaminobenzyl oleate (DMAO).

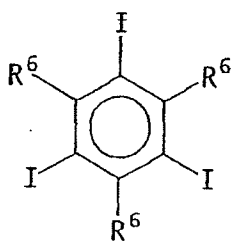
39. (withdrawn): The method as claimed in claim 37, wherein said polymerization initiator is present in an amount up to 2% wt of the composition.

40. (withdrawn): A method of affixing a joint prosthesis comprising inserting said prosthesis and a bone cement into a bone cavity, wherein said cement is a cement as claimed in claim 1.

41. (withdrawn): Bone cement characterized in that the mechanical properties regarding the ultimate tensile strength and ultimate strain are greater than 10% higher than Palacos® bone.

42. (previously presented): The bone cement as claimed in claim 9, wherein the concentration of the organoiodine compound within the particulate polymer portion differs by less than 10% compared to the concentration of the organoiodine within the polymer prepared *in situ* from the monomer during use.

43. (new): The bone cement as claimed in claim 1 wherein said organoiodine compound is of formula IV



(IV)

wherein each R⁶ group which may be the same or different, comprises an acyloxyalkylcarbonylamino, N-(acyloxyalkyl carbonyl)acyloxyalkylamino, N-acyloxyalkylcarbonyl-N-alkyl-amino, acyloxyalkylaminocarbonyl, bis(acyloxyalkyl)aminocarbonyl, N-acyloxyalkyl-N-alkyl-aminocarbonyl, alkoxyalkylaminocarbonyl, N-alkyl-alkoxyalkylaminocarbonyl, bis(alkoxyalkyl)amino-carbonyl, alkoxyalkylcarbonylamino, N-alkyl-alkoxyalkylcarbonylamino or N-alkoxyalkylcarbonyl-alkoxyalkylamino group or a triiodophenyl group attached via a 1 to 10 atom bridge optionally substituted by an acyloxyalkyl, acyloxyalkylcarbonyl, acyloxyalkylamino, acyloxyalkylcarbonylamino, acyloxyalkylaminocarbonyl, alkoxyalkyl, alkoxyalkylcarbonyl, alkoxyalkylamino, alkoxyalkylcarbonylamino, or alkoxyalkylaminocarbonyl group, one or both of the remaining R⁶ groups may be an alkylamino, bisalkylamino, alkylcarbonylamino, N-alkyl-alkylcarbonylamino, alkylaminocarbonyl or bis-alkyl-aminocarbonyl group.

44. (new): The bone cement as claimed in claim 43 wherein each R⁶ group comprises a triiodophenyl group attached via a 1 to 10 atom bridge composed of bridging atoms selected from O, N and C.

45. (new): The bone cement as claimed in claim 1 wherein said organoiodine compound is an iodobenzene compound.

46. (new): The bone cement as claimed in claim 1 wherein said organoiodine compound is an acylated derivative of a non-ionic, monomeric or dimeric X-ray contrast agent.

47. (new): The bone cement as claimed in claim 46 wherein said non-ionic X-ray contrast agent is iohexol, iopentol, iodixanol, iobitridol, iomeprol, iopamidol, iopromide, iotrolan, ioversol or ioxilan.

48. (new): The bone cement as claimed in claim 1 wherein said organoiodine compound is selected from the group consisting of iopamidol pentaacetate, iohexol hexaacetate and iodixanol nonoacetate.

49. (new): The bone cement as claimed in claim 1 wherein said organoiodine compound constitutes 2 to 75% of the portion(s) it is present in.

50. (new): The bone cement as claimed in claim 1 wherein said organoiodine compound is present in both portions.

51. (new): The bone cement as claimed in claim 50 wherein said organoiodine compound is present at a weight percentage in the liquid portion which is within 5% wt of the weight percentage in the particulate portion.

52. (new): The bone cement as claimed in claim 1 wherein the monomer-containing liquid portion comprises acrylic acid, methyl acrylate, ethyl acrylate, methacrylic acid, methyl methacrylate, butyl methacrylate or styrene.

53. (new): The bone cement as claimed in claim 1 wherein said polymer in the said particulate polymer portion is prepared from one or more of acrylic acid, methyl acrylate, ethyl acrylate, methacrylic acid, methyl methacrylate, butyl methacrylate and styrene.

54. (new): The bone cement as claimed in claim 1 wherein the polymers in the said particulate polymer portion are poly methyl methacrylate, poly methacrylate and polystyrene.